

We claim:

- 1 1. An immunostimulatory composition comprising:  
2 at least one oligonucleotide comprising both an RNA region and a  
3 DNA region, wherein at least one terminus of the oligonucleotide  
4 comprises RNA.
  
- 1 2. The composition of claim 1, wherein the DNA region comprises at  
2 least one unmethylated CpG dinucleotide.
  
- 1 3. The composition of claim 2, wherein the DNA region comprises at  
2 least one CpG sequence.
  
- 1 4. The composition of claim 2, wherein both termini comprise at least 1  
2 RNA nucleotide.
  
- 1 5. The composition of claim 3, wherein at least one terminus comprises  
2 poly A RNA.
  
- 1 6. The composition of claim 1, wherein a linkage between at least two  
2 nucleotides of the oligonucleotide comprises a modification of the  
3 phosphate backbone.
  
- 1 7. The composition of claim 6, wherein the modification is a  
2 phosphorathioate modification.
  
- 1 8. An immunostimulatory composition comprising at least a first  
2 oligonucleotide and a second oligonucleotide, wherein both the first  
3 and second oligonucleotides each contain at least one RNA region  
4 and at least one DNA region, wherein at least one terminus of each  
5 oligonucleotide comprises RNA.

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1 9. The immunostimulatory composition of claim 8, wherein each  
2 oligonucleotide elicits a different immune stimulation profile

1 10. An adjuvant comprising at least one oligonucleotide comprising both  
2 an RNA region and a DNA region, wherein at least one terminus of  
3 the oligonucleotide comprises RNA.

1 11. A vaccine comprising:  
2 at least one oligonucleotide comprising both an RNA region and a  
3 DNA region, wherein at least one terminus of the oligonucleotide  
4 comprises RNA, and wherein said oligonucleotide is associated with  
5 a physiological carrier or delivery system.

1 12. A method of stimulating innate immunity comprising:  
2 administering at least one oligonucleotide comprising both an RNA  
3 region and a DNA region, wherein at least one terminus of the  
4 oligonucleotide comprises RNA, and wherein said oligonucleotide is  
5 associated with a physiological carrier or delivery system.

1 13. A method of stimulating global immunity comprising:  
2 administering at least one oligonucleotide comprising both an RNA  
3 region and a DNA region, wherein at least one terminus of the  
4 oligonucleotide comprises RNA, and wherein said oligonucleotide is  
5 associated with a physiological carrier or delivery system.

1 14. A vaccine comprising:  
2 1) at least one oligonucleotide comprising both an RNA region and  
3 a DNA region, wherein at least one terminus of the oligonucleotide  
4 comprises RNA and,  
5 2) at least one target antigen.

1 15. A method of stimulating a cellular immune response comprising:  
2 administrating  
3 1) at least one oligonucleotide comprising both an RNA region and  
4 a DNA region, wherein at least one terminus of the oligonucleotide  
5 comprises RNA and,  
6 2) at least one target antigen.

1 16. A method of stimulating a humoral immune response comprising:  
2 administrating  
3 1) at least one oligonucleotide comprising both an RNA region and  
4 a DNA region, wherein at least one terminus of the oligonucleotide  
5 comprises RNA and,  
6 2) at least one target antigen.

1 17. A method of making a vaccine comprising:  
2 associating  
3 1) at least one oligonucleotide comprising both an RNA region and  
4 a DNA region, wherein at least one terminus of the oligonucleotide  
5 comprises RNA, and  
6 2) a physiological carrier or delivery system.